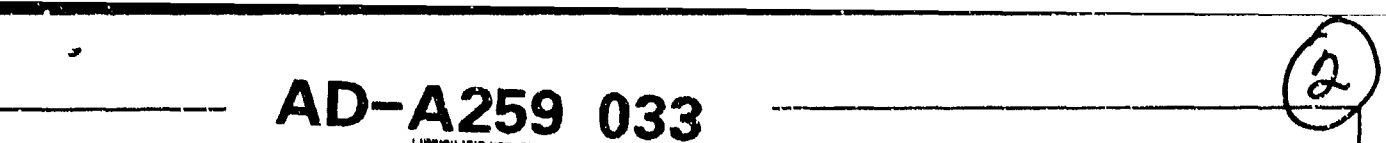

DEFENSE RDT&E ONLINE SYSTEM

54

DROLS WORKBOOK

JANUARY 1993

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This Workbook provides practical exercises to assist users in learning the Defense RDT&E Online System (DROLS). It is intended to be used in conjunction with DTICH 4185.4, DROLS Handbook. Basic and advanced search exercises are provided to assist the user in creating the best strategy for getting the desired results. Answers to exercises and problem sets are in Appendix 3. Information Retrieval, Online Systems, Training, Training Devices, Workbook, DROLS.

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DEFENSE RDT&E ONLINE SYSTEM (DROLS)

DROLS WORKBOOK

FOREWORD

This workbook provides practical exercises to assist users in learning the Defense RDT&E On-line System (DROLS). Answers to exercises and problem sets are in Appendix 3. The workbook is intended to be used in conjunction with DTICH 4185.4, DROLS Handbook. Basic and advanced search exercises are provided to assist the user in creating the best strategy for getting the desired results.

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CONTENTS

CHAPTER 1

SEARCH

- Search commands are: @str@, @scf@, @sna@, @swu@, @sir@
- Search strategy
- Limitations
  - —60-character maximum per search term or term phrase.
  - —525 terms maximum for dedicated users; 220 for dial-up users.
  - —9 levels (AND and NOT Boolean logic create a level).
  - —Output limited to 25,000 finds.
  - —Total search time limited to 3 minutes.
- Use accession date limiter (2, 5, or all). If the accession date limiter is not used, the default is 10 years.
- Terminate with end.
- Transmit.
- After search you can display, qualify, sort, list, recall, transfer, and/or order.

Strategy for Searching

There is no right way to search; only the best way. The goal is to get the desired results in the quickest and most efficient manner. Search results from any retrieval system will vary among searchers. The following steps for building search strategies on the DROLS system are provided to assist you in preparing the best search:

1. Identify the approach - Search requests can range from specific requests to general statements.
   - Specific Search - Requester seeks a specific document or summary.
   - Narrow Search - Requester seeks information on a specific subject area with given qualifiers.
   - Broad Search - Requester seeks information on a broad subject area.
2. Select search concepts - Review DTICH 4185.7, DTIC Thesaurus, and the Inverted File (use @dif@) to select terms or families of terms to include in the search strategy. This should be done prior to developing a search strategy.
   - Specific Search
     - —Broad concepts are not necessary.
     - —If an AD number is provided, display the number.
     - —If a title is given, select terms that will narrow the search.
   - Narrow Search
     - —Select only terms that relate specifically to the request.
     - —Use all terms given; modify later if too restrictive or too broad.
     - —Use open-ended terms and identifiers.
     - —Eliminate or limit use of related terms.

- Broad Search
  - —Select terms that relate to the request.
  - —Select comparable terms also.
  - —Increase the use of posting terms.
  - —Use the same term on more than one level (redundancy searching).

3. Develop initial search strategy - Determine appropriate use of boolean logic (and, or, not), special options (hierarchy, truncation, weighted term, role codes), and accession date of finds (2, 5, 10, all). Place terms or options that will narrow the finds at the beginning of the strategy. This will reduce the amount of computer time needed to conduct the search.
   - Specific Search
     - —Increase the use of AND and NOT logic.
     - —Limit the use of truncation and hierarchy.
     - —Use weighted term and role codes as appropriate.
     - —Use of the date limiter should depend on when you believe the item was accessioned.
   - Narrow Search
     - —Increase the use of AND and NOT logic.
     - —Limit the use of truncation and hierarchy.
     - —Increase the use of weighted term and role codes.
     - —Consider using the date limiters (2), (5), or the default of 10 years.
   - Broad Search
     - —Use OR logic and limit the use of AND and NOT logic.
     - —Increase the use of truncation and hierarchy.
     - —Limit the use of weighted term and role codes.
     - —Use the accession date ALL limitation, when appropriate.
4. Execute initial strategy - Display a random sampling of the results. This will assist you in determining if the initial strategy is sufficient. Display the descriptor and identifier fields: 23 and 25 (and 44 for IAC searches), in the Technical Reports Database, Subject Fields (SUB), in the Work Unit Information System Database; Descriptor (DE) and Identifier (ID) Fields in the Independent Research and Development Database. This will give you a list of the posting terms, open-ended terms, and identifiers used to index the document or summary. You may want to include these terms in a revised strategy. Review the search statistics to assist in determining where the strategy failed.
5. Revise strategy as required - You may want to print a selected sample of the initial results for review by the requester and to assure the strategy meets his requirements.

DEVELOPING THE SEARCH STRATEGY

Exercise 1

Take a few minutes to browse the Inverted File. This will give you an opportunity to become familiar with the subject areas in the DTIC collection. Look for subjects your organization is interested in; also consider atypical subjects of interest. Use the following format:

@dif@
unidentified flying objects
↵

NOTE: ↵ = Transmit

The "D" indicates the word is a descriptor or posting term or Thesaurus term and should result in more finds than the terms with an "X". X terms are open-ended terms and identifiers. Additionally, posting terms are searchable with the hierarchy ($) option explained below.

Exercise 2

Select the best term(s) to search for the following document:

VH-3D Helicopter Integration System-Two Production Test and Evaluation

Exercise 3

Assume you are a military planner who has broad responsibility for assuring the effectiveness of the military in the Persian Gulf. Your concerns vary from the requirements of the troops to how to prepare for military action under desert conditions. You require information on studies conducted regarding actual desert warfare situations as well as academic studies. Choose the terms or term phrases to use in developing the search strategy. Display Inverted File and identify relevant terms and term phrases.

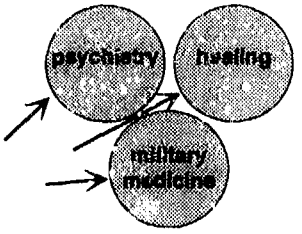
HOW TO USE BOOLEAN LOGIC

DROLS uses Boolean logic to show the relationships among terms. The Boolean operations are: **OR**, **AND**, and **NOT**. Instructions for using the operations follow:

OR

- Groups together similar or related terms.
- OR does not have to be typed between terms, it is understood.
- In the following example, DROLS will find technical reports with any of the terms listed.

```
@str@
psychiatry
healing
military medicine
end
↵
```



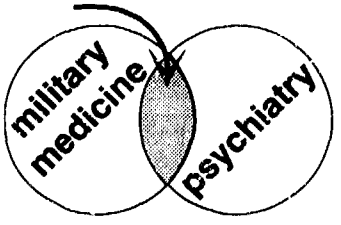
Exercise 4

Write the strategy to find all work unit summaries on boots, shoes, and socks.

AND

- Shows relationship among terms.
- Enter AND on a separate line.
- In the following example, DROLS will find only those technical reports dealing with both military medicine and psychiatry.

```
@str@
military medicine
and
psychiatry
end
↵
```



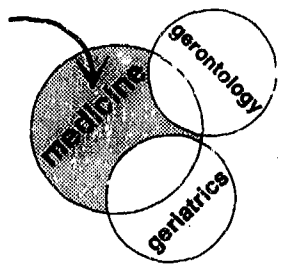
Exercise 5

Write the strategy to find all work unit summaries dealing with both flight clothing and shoes.

NOT

- Eliminates terms or term phrases from consideration.
- Enter NOT on a separate line. NOT must be the last level in the search strategy.
- Use only one NOT.
- In the following example, DROLS is searching the term medicine. However, the user is not interested in gerontology and geriatrics and therefore has eliminated this from these terms results by using NOT.

```
@str@
medicine
not
gerontology
geriatrics
end
↵
```



Exercise 6

Write the strategy to find all work unit summaries on footwear but eliminate work units on boots.

SUBJECT SEARCHING

Searching can be done on posting terms, open-ended terms, and identifiers without the use of special options.

Exercise 7

How many technical reports on gas lasers are in the complete TR Database?

Exercise 8

How many technical reports on gas lasers that consist of carbon, helium, or hydrogen are in the complete TR Database? (Hint: Use AND logic.)

SPECIAL OPTIONS

$ - Hierarchy

- Searches narrower terms; a family of terms
- Used with posting terms only
- Posting term must be spelled exactly as in the DTIC Thesaurus or inverted file (only those terms with a D indicator)

Exercise 9

How many technical reports processed within the past five years were indexed on the term engineering? How many were indexed on engineering and all its narrower terms within the past five years? (Note: The purpose of this exercise is to show that a hierarchy search will result in an increased number of finds than a non-hierarchy search.)

% - Truncation/Masking

- Used to search a shortened version (or root) of a term or phrase in order to get all terms that begin with the same characters as the shortened version (e.g., %word)
- When used after a word, number, name, etc. will create a mandatory space (e.g., %word%)

Exercise 10

How many technical reports processed within the past 5 years were indexed with a term beginning with engineering? Compare the results with the results in exercise 9. (Note: The purpose of this exercise is to show the increased number of finds when truncating a term.)

* - Weighted Term

- Restricts results to those items where the term is the primary subject of the report (e.g., *word)
- Reduces results by 50% or more
- Available in TR Database

Exercise 11

How many technical reports processed in the past 5 years have been indexed on engineering as the primary term? Compare the results with the results in exercise 9 and 10. *(Note: The purpose of this exercise is to show that you get fewer finds when weighting a term.)*

TR DATABASE ROLE CODES

?nn - Role Code

- Use to search specific fields
- Generally, punctuation is eliminated and terms are packed
- Role codes vary in the TR and WUIS Databases

?00 - Index Terms

- Use to eliminate extraneous search items
- Use with truncation to get only index terms in search results. See example in the DROLS Handbook.

Exercise 12

How many technical reports accessioned in the last ten years are indexed with the term shear? Try this search using role code ?00, and then repeat the search but do **not** use the role code; note the reduced number of finds.

Classification Searches

?57 - Entry Classification Statement

- Used by dedicated users to eliminate or select only classified results
- Dial-up users only get unclassified citations to classified documents

?58 - Report Classification Statement

- Used by dedicated and dial-up users to eliminate or select only classified documents

Exercise 13

Search the TR database for the documents accessioned during the past ten years whose subject is guided missiles. Note the number of finds.

Conduct the same search but eliminate the classified documents. Dedicated users should eliminate classified citations. Note the reduction of finds.

Title Searching

?60 - Free Text Searching for titles of documents accessioned since 1975

?56 - Searching on First Five Words of Title

(Can be used for entire collection)

?55 - Search Key Algorithm

(Can be used for entire collection)

Exercise 14

Using the free text title role code, find the technical report with the title, Impact of Office Automation: An Empirical Assessment.

?11 - Author

- Format: Leave space between last name and author's initials (e.g., ?11smith cb)
- Drop hyphens, periods, and spaces between initials.
- Account for varied spelling of names.
- Double truncate the last name to avoid varied spelling of last name. This may result in some extraneous finds.

Exercise 15

How many technical reports accessioned during the past ten years were authored by M. R. Piggott?

?24 - Report Date

- Format: YYMMDD
- Use truncation to search less specific dates or to search all reports in a given year. (e.g., ?24%90)

Exercise 16

Search for all reports on geriatrics published in 1988, 1989, and 1990.

?54 - Subject Field and Group

- Available for documents accessioned during each update cycle (approximately the past six months to one year).
- Enter 6 numbers, adding zeroes after the assigned code if it is less than 6 numbers.
- Refer to the DROLS Handbook for appropriate codes.

Exercise 17

Find all reports in the forestry subject group.

Numbers

- Report numbers can vary depending upon whether the monitor of the research assigned it or the organization doing the research (source) assigned the number. For this reason, redundancy searching for the same term on more than one level can be very useful.

Format:

- Eliminate punctuation and pack.
- Truncate report numbers to include part numbers, volume numbers, appendices, supplements, etc.
- Sometimes an order number can be either in the contract number or project number field. Therefore, use both role codes with OR logic.

?03 - Monitor Acronym

- Use the Directory of Organizational Technical Report Acronym Codes (DOTRAC) to find the correct acronym). Use in conjunction with accession number cut-off option or with specific subject terms.

?51 - Source Series

- Also referred to as report number (this number includes the monitor acronym as well as the monitor series number

?53 - Monitor Series Number

?16 - Contract Number

- Helpful in locating documents performed under a specific contract

?21 - Project Number

- Helpful in locating documents performed under a specific project

?20 - Task Number

- Helpful in locating documents performed under a specific task

?52 - Serial Number

- Use in conjunction with other number searching to identify additional issues of documents. The alternative to this role code is to truncate the report number.

Exercise 18

Find the reports for Contract F49620-83-C-0138.

?02 - Corporate Author

- Refer to the Source Header List or Source Hierarchy List for appropriate code.
- Helpful in maintaining a historical record of documents an organization has submitted to DTIC.
- Helpful in identifying the research and development efforts of specific organizations.

Exercise 19

How many technical reports in the complete collection have been submitted by the Excalibar Corporation? by your organization?

?30 - Location

- Refer to the DROLS Handbook for state and foreign country codes. Can also use number of Congressional District.
- Helpful in identifying the amount and types of research and development performed within specific states, Congressional Districts, or foreign countries especially when combined with subject terms or other search parameters.

Exercise 20

How many research reports have been written by organizations in California's 5th Congressional district and accessioned by DTIC during the past ten years?

?06 Multimedia

- Nonprint products are searchable by role code and one of the single codes listed below or by entering the nonprint subject terms in the search strategy.
- Use the following codes:

  J - Videorecording
  K - Magnetic Tape
  L - 5.25" Diskette-Low Density
  M - 3.5" Diskette-Low Density, IBM
  N - 3.5" Diskette-Low Density, Macintosh
  P - 5.25" Diskette-High Density
  Q - 3.5" Diskette-High Density, IBM
  R - 3.5" Diskette-High Density, Macintosh
  S - CD-ROM

- Or use the following subject terms:

  multimedia(videorecording)
  multimedia(magnetic tape)
  multimedia(computer diskette)
  multimedia(cdrom)

EXERCISE 21

How many videorecordings are available on heat transfer?

INFORMATION ANALYSIS CENTER (IAC) SEARCHING

- Can only be done in the TR Database.

?04 - IAC Accession Number (include hyphen)

?45 - IAC Document Type

(see the DROLS Handbook for codes)

IAC Subject Searching

- See the DROLS Handbook for each IAC's role code.
- Refer to the DTICH 4185.9, IAC Subject Term Frequency Counts, for IAC subject terms. You cannot use the DTIC Thesaurus for IAC subject searching.
- Only special option available is truncation.

Exercise 22

Conduct a subject search of the Guidance and Control IAC (GACIAC) for techniques of remote sensing to determine the effects of improper land usage on local vegetation and water bodies. Consider the following terms:

Remote sensing
Mapping
Land use
Water, Oceans, Rivers, Lakes, Trees, Plants, Grasses,
Vegetation

HINT: Consider other terms which may relate to those listed above.

Develop and run a general subject search of the TR Database (i.e., without using IAC role codes) for this topic.

HINT: You will need to rethink your strategy. Look at the DTIC Thesaurus and/or the Inverted File for similar terms.

Typically users do a combination search of the TR Database and the IAC portion. See Appendix 3 for a sample of combining the searches conducted above.

WORK UNIT DATABASE MNEMONICS

AND - Agency Digraph

- Used to identify work units submitted by a particular agency.
- Refer to the DROLS Handbook for agency codes.
- Use AND=dod to get all Department of Defense records. Place this last in the strategy since it is a broad search and might result in an aborted message.
- Helpful in maintaining a historical record of work units an organization has submitted to DTIC.
- Helpful in identifying the research and development efforts of specific organizations or all DoD agencies.

Exercise 23

What is the total number of work units submitted by NASA? by your organization?

SC - Performing Organization - Source Code

- Used to search for the name of the Performing Organization.
- Refer to the Source Hierarchy Listing for source codes.

Exercise 24

How many work units submitted by DoD agencies are being performed by the National Science Foundation? HINT: Use mnemonics SC and AND.

Date Searches

- Format: YYMM for a specific date. YYMM-YYMM for a range of dates.
- Consider use of truncation

RD - Date of Summary

- Used to identify the date(s) on which a transaction was prepared by a contributing agency.

CED - Contract/Grant Effective Date

- Identifies the date in which the latest contract or grant funding action occurred.

CEX - Contract/Grant Expiration Date

- Helpful to contractors planning to bid on a contract.

Exercise 25

How many work units on ground clutter are dated between October 1985 and September 1990?

SE - Status of Effort

- Use one of the following alpha codes:

N-New	T-Termination	P-Planned
D-Change	C-Completion	

Exercise 26

How many active or proposed work units on spacecraft were submitted by the Air Force and performed by NASA. HINT: Use mnemonics SC, AND, and SE.

Classification and Limitation Searches

RCC - Record Security Classification Code

DC - Distribution Code

Exercise 27

Search for the total number of DoD work units on computer applications available to DoD contractors.

Number Searches

- Eliminate punctuation and pack numbers.
- There are numerous ways to search numbers in the Work Unit database. When conducting a number search, you must be certain of the type, completeness, and accuracy of the number to get good results.

PEP - Primary Funding Data - Primary PE Number

- Use up to 10 character number.

Exercise 28

How many work units in the Work Unit Database were performed by the Department of Energy, where the responsible organization is the Defense Nuclear Agency, Washington, DC, and the primary program element category is advanced development?

PJP - Funding Data - Primary Project Number

PSN - Primary Project Serial Number

TNP - Funding Data - Primary Task Number

LCN - Local Control (Work Unit) Number

PE1 - Funding Data - First Contributing Project Number

- Searchable as PEP, display is PE1

PEP - Primary Funding Data - Primary PE Number

PJ1 - Funding Data - First Contributing Project Number

- Searchable as PJ and PJP, display is PJ1

CT - Contract/Grant Transfer Number

Exercise 29

Find all project, task area, and work unit reports for project 1L161101.

Title Searching

- Searches other narrative fields including the objective, approach, progress, and evaluation.

TI - Title (Unclassified)

TI5 - Searching on First Five Words of Title

TIA - Search Key Algorithm

Exercise 30

Find the work unit summary (using the Title searching method) for the following title: Worldwide Navy Oil Spill Risk Analysis

---

FG - Subject Field and Group

- Unlike the TR Database, this code is available for all work units in the collection.
- Refer to the DROLS Handbook for codes.
- Helpful in maintaining current status in a specific area of research.

Exercise 31

How many active work units are there in the scientific area "biochemistry"?

PM - Performance Method

- Used to identify the method by which the work is being performed.
- Refer to the DROLS Handbook for codes.
- Helpful to contractors in determining what work is potentially available for bidding.
- Helpful to managers in determining what work is being conducted in-house versus on contract or a grant.

Exercise 32

How many completed work units on civil engineering are funded by contract?

Contract/Grant Dollar Search

- Helpful in identifying how much money is being spent in specific areas.
- Helpful in identifying how much money is being spent in specific areas by contract, grant, or in-house when performance method mnemonics PM is used.

SRI - Subordinate Record Indicator

- Identifies the work unit as a part of a larger contract or grant effort.

Exercise 33

How many work units on spacecraft are components of other work units?

Organization and Location Searches

- For organization searches, refer to Source Header List or Source Hierarchy List for appropriate codes.
- To search subsets within any organization, use the hierarchy option.
- For location searches, use the codes provided in the DROLS Handbook and Congressional District numbers.
- Helpful in identifying the amount and types of research and development performed within specific states, Congressional Districts, or foreign countries when the contract/grant dollar mnemonics (SRI, CFV, TOT) are used in the search strategy.

RSC - Responsible Organization Source Code

RL - Responsible Organization Location

SC - Performing Organization Source Code

PL - Performing Organization Location

OT - Performing Organization Type Code

- Refer to the DROLS Handbook for codes.

Exercise 34

How many work units has the Armed Forces Institute of Pathology been responsible for?

Personal Name Searches

- Names have been entered into the database with last name first. However, initials are not in a standard format. Include all possible formats, i.e., with and without commas. Consider use of truncation.

RIN - Responsible Organization - Responsible Individual Name

AU - Preforming Organization - Principal Investigator Name

P2N - Preforming Organization - Associate Investigator Name

Exercise 35

How many work units on terms beginning with the word medical are the responsibility of J. F. Kelly.

DTT - Domestic technology Transfer (Civilian Applicability)

- Use one of the following codes:

  HI - Potential for civilian application
  LO - Potential for civilian application is limited
  NO - No potential for civilian application

- Helps contractors identify DoD research and development efforts that have civilian application.
- Helps Congress identify which DoD work efforts they may want to support.

Exercise 36

How many active work units are there in the ecology subject group? How many have high potential for civilian application?

STUDIES AND ANALYSIS INFORMATION

SUB - Subject Terms (Descriptors, Keywords, Title, and Identifiers

- Use to eliminate extraneous search items
- Use of SUB correlates to Role Code 00 in the TR Database

SAC - Studies and Analysis Category

- See the DROLS Handbook for codes.
- Specific work units are categorized only if the work is in a "study and analysis" category.

SSS - Special Study Subjects

- See the DROLS Handbook Special Category codes.
- Identifies studies which require models, databases using code words, or sensitive material.

FIC - International Sources Considered

- Codes: Y = Applicable, N = Not Applicable
- Identifies foreign studies with foreign affair implications.

Exercise 37

How many active Air Force work units are in the studies and analysis category of concepts and plans?

Search with Previous Strategy

- Allows user to process the same search in another database without having to retype the strategy.
- Role codes/Mnemonics are automatically converted or dropped when not applicable.
- Search terms are @scfwps@, @strwps@, @swuwps@, @snawps@, or @sirwps@.
- No terminator required.
- Transmit.

Exercise 38

Conduct a search of the Technical Reports Database to find all reports on waterproofing accessioned in the last ten years. Perform the same search in the Work Unit Database.

ADVANCED SEARCHING

COMBINING SPECIAL OPTIONS

SEARCH OPTION	FILE NAME			
	TR	CF	WU	IR
* $	Thesaurus	N/A	Thesaurus	N/A
* %	Thesaurus Identifiers Open Ended Terms	N/A	Thesaurus Identifiers Open Ended Terms	N/A
$? N N	Source Code	Source Code	Source Code	N/A
$ %	Thesaurus	N/A	Thesaurus	Thesaurus

1. *$ - Used only in the TR and WU databases with posting terms. A search using only the hierarchy option can result in an excessive number of finds. To reduce the number of finds, use the combination of the weighted term (*) and hierarchy ($) options. Your results will include broad and narrow terms where they are the primary subject of the report.

Exercise 39

How many technical reports indexed under terms found in the hierarchy magnetic devices were accessioned during the past ten years?

Note the high number of finds.

Revise the search strategy to find only those technical reports indexed under terms found in the hierarchy magnetic services where the primary subject is magnetic devices. Note the considerable reduction in terms.

2. *% - Used only in the TR and WU databases with any type of term, i.e., posting terms, open ended terms, and identifiers. A search using the truncation option only can result in an excessive number of finds. To reduce the number of finds, use the combination of the weighted term (*) and truncation (%) options. Your results will include reports where the root term is the primary subject of the report.

Exercise 40

How many work units were indexed under a phrase beginning with the words computer aided?

Note the high number of finds.

Revise the search to find only those work units indexed under a phrase beginning with the words computer aided where that is the primary subject.

3. ?02 is the Role Code search option used for searching source codes in the TR database. SC is the search option used for searching source codes in the WU database. To search the source or contributors of DTIC and their subordinate organizations, use ?02 for the TR database and SC for the WU database and the hierarchy option ($). Use the source code at the highest organization level. Refer to the Source Hierarchy List for codes.

Exercise 41

Find all technical reports where the corporate author is Department of Agriculture. Include all the Department's subordinate organizations.

SEARCH PROBLEM SET

1. How many technical reports in the entire collection have been indexed on Civil Defense? How many work units?

2. Do the same search using the full text option in the TR, CF, and WU databases.

3. How many technical reports processed in the past ten years have been indexed on Chemical Compounds. How many were indexed on Chemical Compounds as the primary subject?

4. How many technical reports processed within the past five years were indexed on any posting term in hierarchy Melting compared to the number indexed with any indexed term beginning with the word Melting?

5. How many technical reports processed in the last ten years were indexed on any of the terms in the hierarchy Sound, excluding those indexed on Underwater Sound?

ADVANCED PROBLEM SET #1

1. What are the names of the responsible individual and the principal investigator for the Work Unit summary titled, "A Study of the Scientific Aspects of Veterinary Medical R&E"?

2. Search the Work Unit database and identify the contracts, primarily funded by the Navy on naval mines, that expired during the first quarter FY91. What is the cumulative dollar amount for those contracts? How many man-years are estimated for the current fiscal year? What are the contract/grant numbers and the performance methods awarded for the first five search results?

3. Create an unclassified printout of Work Units indexed on Very Large Scale Integrated Circuits for which VLSI appears in the title. Limit your printout to ONLY those active Work Unit summaries which are available to U.S. Government agencies and their contractors. Print the first six summaries which have start dates between FY80 and FY85 (October 1979 - September 1985).

4. Identify all technical reports on ROTI developed by the Perkin-Elmer Corporation. List those citations which have Guided Missiles as a primary subject term.

5. A researcher wants to know what reports the Robotics Institute at Carnegie-Mellon University has published on tactile and visual sensing in robots. Does the Robotics Institute have any ongoing Air Force contracts?

ADVANCED PROBLEM SET #2

1. Display alphabetically by the responsible and performing organization, items three thru six (3-6) of any active unclassified work unit summaries indexed on Battlefield Simulation.

2. Identify, the project, task, and work unit numbers associated with Program Element 6326N for those efforts that are unclassified and where distribution is limited to U.S. Government Agencies and their Contractors. How much money was expended on this Program Element? If there are more than 10 summaries, only display the first five.

3. Search the Technical Report file for documents indexed on command and control systems for target acquisition of ballistic missiles. Narrow your search results to those reports published between 1980 and 1989, and not from foreign sources. Then order an unclassified bibliography of the unclassified/unlimited reports only, to include citations to referrals and patents. Use your name; user code 27794; contract number N0032-90C-324. Include title and corporate author indexes with your bibliography order. **DELETE YOUR ORDER!!!**

4. Display the foreign produced reports, alphabetically by source, of any technical reports indexed on submarine detection using sonobuoys which were published within the past five years. If there are more than ten, display every other citation until you have viewed six.

5. Then order an unclassified bibliography of the classified documents only, to include referrals and patents. Use your name; user code 27794; contract number N0032-90C-034; include title and corporate author indexes. **DELETE YOUR ORDER!!!**

CHAPTER 2

DISPLAY

HOUSEKEEPING COMMANDS

@dil@ - Display Information Log

- Displays ranges for input cycles.
- Lists enhancements to DROLS.
- Provides announcements of conferences.
- Serves as a news service to users.
- Should be checked daily.

@daf@ - Display Available Files

- Indicates which files are available for use.
- Shows the date of the last file update.

@dol@ - Display Order Log

- Displays most recent 2 days of ordering.
- Check status the next business day after ordering.
- The letter C before the user code indicates error in contract number. User must re-order.
- The letter U before the user code indicates error in user code. User must re-order.

@dsl@ - Display Security Log

(Secure Sites Only)

- Indicates number of classified and/or IR&D items displayed.
- Run this command and print before terminating a secure terminal.
- The letter W must be entered after the command.

@commnt@ - Comment

Type your message, include name and organization symbol if appropriate. Message may contain up to 21 lines. Include your phone number.

end

↵

- Use to send message to DTIC; response will be made by phone or mail as appropriate.

@banner@ - Banner

- Use w to print banner; use y to view on screen.
- Identifies DROLS as the source for information.
- Can serve as documentation of time logged on and off.

@ditar@ - Display

- International Traffic in Arms Statement
- Use w to print statement; use y to view on screen.
- Print and include with on-line prints to make end user aware of export control responsibilities.

@nosale@ - No Sale

- Use w to print statement; use y to view on screen.
- Print and include with on-line prints to make end user aware items cannot be published for profit.

@dif@ - Display Inverted File

See Chapter 1, page 3.

@dsr@ - Display Search Results

- Enter all to display blank fields (optional).
- Enter display format - canned or user designed. (See the DROLS Handbook for display formats
- Terminate with end (secure sites can exclude classified results by using endu).
- Enter appropriate display mode (y, c, w, x).
- Transmit.
- After display you can qualify, sort, recall, list, transfer, and/or order.

EXERCISE 1

Conduct the following search:

```
@str@
(5)
*research facilities
end
↵
```

Display the search results using one of the canned formats in the DROLS Handbook. Display the first result on the screen.

Display the search results in a user designed format to include the title, personal author, report date, and limitations. Display the results on a continuous basis.

Now conduct the same search in the WU; type the following:

@swuwps@

↵

Display the search results using one of the canned formats in the DROLS Handbook. Display the first result on the screen. Display the 4th result. Go forward 5 results. Go back 2 results.

Display the search results in a user designed format to include the title, responsible individual, date of summary, technical objective, approach, and progress. Display the first result on the screen.

Display of Known Accession Number

- Use @dtr@, @dcf@, @dwu@, or @dir@ as appropriate.
- Enter known AD number.
- Terminate with END.
- Enter display mode (y, c, w, x).
- Transmit.
- After this command you can transfer or order.

Exercise 2

Display on the screen the technical report with accession number ADE-605652, using the 1f format.

CHAPTER 3

TRANSFER

- Transfer commands are: @ta@, @tasr@, @trsr@, @taqr@, @trqr@. This function is limited to search results or known accession numbers from a single database.
- Enter AD numbers and no more than two ranges for @ta@. Enter ranges for @trsr@ and @trqr@.
- Terminate with END.
- Transmit.
- Conduct additional searches and transfer to user file if desired.
- Close user file with END and transmit.
- After closing the user file, you can order, qualify, sort, or display.

EXERCISE 1

Conduct the following search:

@str@
eyeglasses
(all)
end
↵

Transfer the ada range to the user file.

Conduct the following search:

@str@
astigmatism
optic neuritis
visual defects
end
↵

Display some of the results. You decide you want two copies each of ADA-234866 and ADA-233167. Use the transfer command to add these to the user file.

Close the user file.

CHAPTER 4

SORT

- Rearranges search results. Sorts in batches of 100.
- Sort commands are: @ssr@, @sqr@, or @suf@.
- Select maximum of 3 sort fields (see the DROLS Handbook). Limitations: 1 field=4,400 finds, 2 fields=2,900 finds, and 3 fields=2,200 finds.
- Terminate with aend (ascending order) or dend (descending order).
- Transmit.
- After sorting, you can display, transfer, and/or order.

Exercise 1

Conduct the following search:

```
@str@
*optical equipment
end
↵
```

Sort the search results by the corporate author field in ascending order.

CHAPTER 5

QUALIFY

Qualify commands are:

@qsr@ and @quf@

- Use @qsr@ after a search and @quf@ after closing a user file.
- Enter data field, comparison symbol (NE, EQ, GT, GE, LT, LE), and data to be compared. Limited to 21 lines of information. Qualify runs in batches of 100.
- Terminate with END.
- Transmit.
- You will receive statistics showing the number of finds which passed and failed the criteria.
- After qualification, you can display, list, recall, sort, transfer, and/or order.

Exercise 1

Conduct the following search:

@str@
reconnaissance
end
↵

Qualify the results to retrieve only those technical reports available for public release.

Exercise 2

Conduct the following search:

@swu@
relaxation
end
↵

Qualify the results to retrieve only those summaries dated 1985 and after.

FREE TEXT QUALIFICATION

- Free text qualification commands are: @qsrti@, @qsrab@, @qsrtab@, @qufti@, @qufab@, @quftab@.
- Enter word or phrase (up to 60 characters).
- Terminate with END.
- Transmit.
- After qualification, you can display, list, recall, sort, transfer, and/or order.

Exercise 3

Conduct the following search:

```
@str@
geology
end
↵
```

Qualify the results to get only those technical reports with Dead Sea in the title or abstract.

CHAPTER 6

LIST

- Used to list document or summary accession numbers resulting from a search, qualification, or transfer.
- List commands are: @lsr@, @lqr@, or @luf@.
- Transmit; no terminator required.

Exercise 1

Conduct the following search:

@str@
software engineering
software applications
end
↵

List the search results.

You will receive the first screen of AD numbers. At the top right of the screen, note the number of pages in the listing.

Go to page 5. Type

p5
↵

Go back to page 3. Type

p3
↵

CHAPTER 7

RECALL

- Used to show the last search strategy (@rsq@ or @rqq@) so user can modify strategy. Dedicated users can edit screen; dial-up users must retype search strategy.
- Used to show search statistics (@rss@ or @rqs@) so users can determine where strategy failed to get desired results. Dedicated users get statistics automatically after search; dial-up users must issue a command.
- Recall commands are: @rsq@, @rqq@, @rss@, or @rqs@.
- Transmit; no terminator required.

Exercise 1

Conduct the following search:

@str@
space communications
and
earth orbits
equatorial orbits
and
satellites
end
↵

You should receive little or no finds.

Look at the search statistics to determine where the strategy fails.

- Dedicated users can look at the statistics after the search is executed.
- Dial-up users need to execute the command: @rss@ ↵
- The statistics show the search failed at level 2.

Recall the search strategy by executing the command: @rsq@ ↵

- The second level (earth orbits or equatorial orbits) is too narrow. Review of the DTIC Thesaurus and the Inverted File (@dif@) can assist in determining broader terms to search on.

Conduct the following revised search:

@str@
$space communications
and
$orbits
and
$artificial satellites
end
↵

- You should receive a larger number of finds.
- Notice this search used the hierarchy option with DTIC Thesaurus terms in lieu of narrower terms, open ended terms or identifiers. This expanded the search to include several related, narrow terms. This search may not provide the desired finds, however, it does provide citations to review.

CHAPTER 8

ORDERING

- Order commands are: @osr@, @oqr@, @ouf@.
- Enter format. See Order Formats Appendices in the DROLS Handbook for information on formats.
- Terminate with end.
- Transmit.
- You will receive a screen of order stubs. Dedicated users can use the tab key to move to each stub and complete the information. Dial-up users must type each stub and the information, one to a line. See Order Parameters Appendices in the DROLS Handbook for information regarding the stubs.
- Terminate with end.
- Transmit.
- You will receive a product order completed message. Print the screen message and retain for your records. You will need this information to track or cancel the order.

@co@ - Cancel Order

- Must be done the same day the order is placed.
- Type six digit filename.
- Transmit.
- System will ask for Search Control Number (SCN).
- Type last six characters of the SCN.
- Transmit.
- System will give file deleted message.

Exercise 1

Order two hardcopies each of the following technical reports:

ADA-001-001; ADA-002-002; ADA-003-003. Use user code: 27794 and your name. **DELETE THE ORDER!!**

Hint: Use the transfer command to place the AD numbers in a user file.

Exercise 2

Conduct the following search:

@str@
(5)
$weapons
%modular weapon
and
$modular construction
%modular
end
↵

Order an unclassified bibliography of the classified results. Use user code: 27794; your name; a title; and include the CNWDI reports. **DELETE THE ORDER!!**

@form55@ & @add55@ - ON-LINE LIMITED DOCUMENT ORDERS

- Used to order technical reports that have a limited distribution statement requiring permission from the releasing agency before the document order can be filled.
- AD numbers usually have an L suffix.
- To request access use @form55@.
- If making additional requests use @add55@.
- Complete stubs including mandatory stubs (p. 9-8 and 9-9). Dedicated and dial-up users must type each stub and the appropriate information; one stub to a line.
- Terminate with END.
- Transmit.

Exercise 3

Assuming you are a contractor, order two copies in microfiche and one hardcopy of the limited document ADB-001-005L. Use user code 27794; your name; Justification: Testing for Class Purposes; Deposit Account: 32121; Contract Number: DLA-PPQ-124; Contract and Facility Clearance: Confidential; Government Sponsor and Address: DLA, Cameron Station, Alexandria, VA, 22304-6145; and Monitor: John A. Doe, 703-555-5555. **DO NOT TRANSMIT THIS ORDER!!**

APPENDIX 1

DROLS: CHEAT SHEET

The following shows an example of the steps taken to search, display, and order (column 1). Also given is a brief description for each step (column 2) and references for futher guidance (column 3).

Function	Description	Refer to DROLS Handbook
@str@	Enter search command @str@, @swu@, @sir@ @sna@, @scf@	Chapter 2
battlefield	Enter terms. Group like terms together,	
*mine fields	*=primary subject	Chapter 2
land warfare	OR is understood	Chapter 2
and	Use AND to show relationship among terms	Chapter 2
$computer applications	Enter terms.	
$*mathematical models	$=includes narrower terms	Chapter 2
$computer programs	*=primary subject	Chapter 2
%computer programs	%=shortened term	Chapter 2
and	Use AND to show relationship among terms	Chapter 2
?2489	Use role codes to limit	
?2490	searching to specific	
?2491	fields	Chapter 2
not	Use NOT to exclude terms	Chapter 2
economic models	Enter terms	
end	Terminate.	
↵	Transmit.	
@qsr@	Enter qualify command to narrow results @qsr@, @quf@	Chapter 6
1/	use @qsrti@, @qsrab@, @qsrtab@, @qufti@, @qufab@, @quftab@ to free text qualify title/abstract.	
33 eq 1	Enter field number, a space, two-digit qualification for qualify symbol	Field ID Codes
1/	a space, and the fields data to be compared (for free text qualify, enter terms)	
end	Terminate.	
↵	Transmit.	
@dqr@	Enter display command, @dsr@, @dqr@, @duf@	Chapter 3
1f	Enter canned format	Display Formats
1/	or field numbers	Field ID Codes
end	Terminate.	
↵	Transmit.	
@ta@	Use transfer command to build a user file. @ta@, @tasr@, @trsr@, @taqr@, @trqr@	Chapter 4
ada237372	Enter AD numbers.	
end	Terminate.	
↵	Transmit.	
end	Close user file.	

1/ Do Not Include line spaces in your strategy.

Function	Description	Refer to DROLS Handbook
@ouf@	Enter order command, @osr@, @oqr@, @ouf@	Chapter 9
tr3061	Enter format	Order Formats
end	Terminate.	
↵	Transmit.	
uco:27794	Complete order stubs.	Order Formats, Order Parameters
req:name	Dial-up users type stub and information.	
1/	Dedicated users can use the tab key to move thru stubs and type information.	
end	Terminate.	
↵	Transmit.	

PRINT ORDER COMPLETED MESSAGE, RETAIN FILENAME AND SEARCH CONTROL NUMBER TO TRACK OR CANCEL ORDER.

@co@	Cancel Order	Chapter 9
123456	Six digit filename.	
↵	Transmit	
XXXXXX	Last six characters of Search Control Number.	
↵	Transmit.	

THE FINAL RESPONSE WILL BE: —FILE 123456 WITH SEARCH CONTROL NUMBER XXXXXX HAS BEEN DELETED.

1/ Do Not Include line spaces in your strategy.

APPENDIX 2

DESCRIPTION OF TECHNICAL REPORT (TR) DATABASE AD NUMBER RANGES

RANGE	CONTENTS
ADA	Unclassified/Unlimited.
ADB	Unclassified/Limited.
ADC	Classified Secret, Confidential, Restricted, some intelligence data. No top secret.
ADD	DoD Patents & patent applications; IAC documents.
ADE and ADF	Shared Bibliographic Input records (Other DoD sites input their own records into the Technical Report (TR) Database).
ADP	Papers from symposia and conference proceedings
ADR	Department of Energy critical nuclear weapon design information. Not announceable to dial-up users.

APPENDIX 3

ANSWERS TO EXERCISES

Chapter 1

1. @dif@
   unidentified flying objects
   ↵

2. VH and 3D will narrow the results. However you could use every word in the title except and which is a stop word.

3. deserts
   middle east
   persian gulf
   arab israeli war
   six day war
   warfare
   desert warfare
   military tactics
   military supplies
   military training
   military vehicles
   military strategy
   military requirements
   military operations
   military planning
   war games
   military equipment
   military engineering
   logistics
   military personnel
   military organizations
   logistics planning
   combat

4. @swu@
   boots
   shoes
   socks
   end
   ↵

5. @swu@
   flight clothing
   and
   shoes
   end
   ↵

6. @swu@
   footwear
   not
   boots
   end
   ↵

7. @str@
   (all)
   gas lasers
   end
   ↵

8. @str@
   (all)
   gas lasers
   and
   argon lasers
   nitrogen lasers
   tea lasers
   xenon lasers
   end
   ↵

9. @str@
   (5)
   engineering
   end
   ↵

   @str@
   (5)
   $engineering
   end
   ↵

10. @str@
    (5)
    %engineering
    end
    ↵

11. @str@
    (5)
    *engineering
    end
    ↵

12. @str@
    %shear
    end
    ↵

    @str@
    ?00%shear
    end
    ↵

13. @str@
    guided missiles
    end
    ↵

Dial-up	Dedicated
@str@	@str@
guided missiles	guided missiles
not	not
?58s	?58s
?58c	?58c
?58r	?58r
end	?57s
↵	?57c
	?57r
	end
	↵

14. You could use every word in the title except of and an which are stop words. However, the following is sufficient:

    @str@
    ?60automation
    and
    ?60office
    and
    ?60empirical
    end
    ↵

15. @str@
    ?11%piggott
    end
    ↵

16. @str@
    geriatrics
    and
    ?24%88
    ?24%89
    ?24%90
    end
    ↵

17. @str@
    ?54020600
    end
    ↵

18. @str@
    ?16f4962083c0138
    (all)
    end
    ↵

19. @str@
    ?02409053
    (all)
    end
    ↵

20. @str@
    ?300605
    end
    ↵

21. @str@
heat transfer
and
?06j
end
↵

22. @str@
g—radar
g—remote sensing
g—remote sensor
g—mapping
g—maps
and
g—land use
g—water
g—oceans
g—rivers
g—lakes
g—trees
g—trees(plants)
g—plants(botony)
g—grasses
g—vegetation
end
↵

@str@
$radar
$remote systems
$remote detectors
$mapping
$maps
and
$land use
$land forms
end
↵

@str@
$radar
$remote systems
$remote detectors
$mapping
$maps
g—radar
g—remote sensing
g—remote sensor
g—mapping
g—maps
and
$land use
g—land use
$land forms
g—water
g—oceans
g—rivers
g—lakes
g—trees
g—trees(plants)
g—plants(botony)
g—grasses
g—vegetation
end
↵

23. @swu@
AND=vn
end
↵

24. @swu@
SC=244400
and
AND=dod
end
↵

25. @swu@
ground clutter
and
RD=8510-9009
end
↵

26. @swu@
spacecraft
and
SE=n
SE=d
SE=p
and
AND=df
and
SC=156200
end
↵

27. @swu@
$computer applications
and
AND=dd
and
DC=d
end
↵

28. @swu@
PE=63
and
SC=393715
and
AND=dh
end
↵

29. @swu@
PJ=%1l161101
end
↵

30. You could have used all the words in the title.

@swu@
TI=worldwide
and
TI=navy
and
TI=oil
and
TI=spill
end
↵

31. @swu@
FG=0601
and
SE=a
SE=d
end
↵

32. @swu@
civil engineering
and
SE=c
SE=t
and
PM=c
end
↵

33. @swu@
spacecraft
and
SRI=s
end
↵

34. @swu@
RSC=034500
end
↵

35. @swu@
%medical
and
RIN=%kelly
end
↵

36. @swu@
FG=0606
and
SE=n
SE=d
end
↵

@swu@
FG=0606
and
SE=n
SE=d
and
DTT=hi
end
↵

37. @swu@
SAC=2
and
AND=df
and
SE=n
SE=d
end
↵

38. @str@
waterproofing
end
↵

@swuwps@
↵

30. @str@
$magnetic devices
end
↵

@str@
$*magnetic devices
end
↵

40. @swu@
%computer aided
end
↵

@swu@
%*computer aided
end
↵

41. @str@
?02$410880
end
↵

Search Problem Set

1. @str@
civil defense
(all)
end
↵

@swuwps@
↵

2. @str@
?60civil
and
?60defense
end
↵

@scfwps@
↵

@swuwps@
↵

3. @str@
chemical compounds
end
↵

@str@
*chemical compounds
end
↵

4. @str@
(5)
$melting
end
↵

@str@
%melting
end
↵

5. @str@
$sound
not
$underwater sound
end
↵

Advanced Problem Set 1

1. @swu@
TI=scientific
and
TI=aspects
and
TI=veterinary
and
TI=medical
(all)
end
↵

@dsr@
RIN
AU
TI
end
y
↵

2. @swu@
$naval mines
and
CT=dn
and
RD=9010-9012
end
↵

@qsr@
end
↵

@dsr@
CT
PM
end
c
↵

3. @swu@
TI=vlsi
TI=very
and
TI=vlsi
TI=large
and
TI=vlsi
TI=scale
and
TI=vlsi
TI=integrated
and
TI=vlsi
TI=%circuit
and
RCC=u
and
SE=n
SE=d
and
DC=c
end
↵

@qsr@
CED ge 7910
and
CED le 8509
end
↵

@dqr@
1f
end
y
↵

4. @str@
*guided missiles
and
?02279550
(all)
end
↵

@srtab@
roti
recording optical
optical tracking
end
↵

@dqr@
1f
end
y
↵

5. @str@
%robot
and
?02$412463
(all)
end
↵

@srtab@
tactile
tactual
touch
pressure
gripper
sense
sensing
sensory
visual
visualization
vision
artificial
computer guided
end
↵

@swu@
SC=$412463
and
AND=df
and
SE=n
SE=d
end
↵

Advanced Problem Set 2

1. @swu@
battlefields
and
$computer applications
$mathematical models
$computer programs
SUB=%computer program
and
SE=n
SE=d
not
RCC=s
RCC=c
end
↵

@sosr@
RIN
AU
aend
↵

@qsr@
end
↵

@dsr@
1f
end
3-6c
↵

2. @swu@
PEP=0603206n
and
ECC=u
end
↵

@soqr@
PJP
TNP
LCN
aend
↵

@qsr@
end
↵

@dqr@
1f
end
1-5c
↵

3. @str@
$command and control systems
and
target acquisition
and
$guided missiles
(all)
end
↵

@qsr@
11 ge 80
and
11 le 89
not
41 ge 6
end
↵

@oqr@
tr6000
tr2035
tr2024
end
↵

uco:27794
cno:90c034
req:cupp
ttl:c3i
ref:b
lmt:2t
bcl:1
end
↵

4. @str@
%submarine detect
and
sonobuoys
end
↵

@qsr@
41 ge 6
and
11 ge 86
end
↵

@soqr@
20
aend
↵

@dqr@
1f
end
2/6c

5. @oqr@
tr6000
tr2035
tr2024
end
↵

bcl:1
lmt:1t
ref:b
uco:27794
req:cupp
ttl:subdetect

Chapter 2

1. @dsr@
   1f
   end
   y
   ↵

   @dsr@
   6
   10
   11
   22
   end
   c
   ↵

   @dsr@
   3f
   end
   y
   ↵
   y+3
   ↵
   y+5
   ↵
   y-2
   ↵

   @dsr@
   TI
   RIN
   RD
   OBJ
   APP
   PRG
   end
   y
   ↵

2. @dtr@
   ade605652
   1f
   end
   y
   ↵

Chapter 3

1. @trsr@
   (ada000005-ada999999)
   end
   ↵

   @ta@
   ada234866
   ada234866
   ada233167
   ada233167
   end
   ↵

   end
   ↵

Chapter 4

1. @ssr@
   5
   aend
   ↵

Chapter 5

1. @qsr@
   33 eq 1
   end
   ↵

2. @qsr@
   RD gt 85
   end
   ↵

3. @qsrtab@
   dead sea
   end
   ↵

Chapter 6

1. @lsr@

Chapter 8

1. @ta@
   ada001001
   ada001001
   ada002002
   ada002002
   ada003003
   ada003003
   end
   ↵

   @ouf@
   tr3061
   end
   ↵

   uco:27794
   req:your name

   @co@
   filename
   ↵
   search control number
   ↵

2. @osr@
   tr6000
   end
   ↵

   bcl:1
   uco:27794
   req:your name
   ttl:Modular Weapons
   lmt:2i

   @co@
   filename
   ↵

   Search Control Number
   ↵

3. @form55@
   ↵

adn:adb001005
uco:27794
cpy:hc,mf
qty:1,2
rqf:Testing for ciass purposes.
req:Carol Brown
rel:Air Force Weapons Lab
    SUL/NT
    Kirtland AFB, NM 87117-6008
dan:DLA
    Cameron Station
    Alexandria, VA 22304-6145
cmo:John A. Doe, 703-555-55555
cno:dla-ppq-124
ccl:c
rtl:research scientist
end
↵